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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Amanda Jayne Crudace

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Frank J Uxa
Stout Uxa Buyan & Mullins
Suite 300
4 Venture
Irvine, CA 92618

EXAMINER

DOE, SHANTA G

ART UNIT

PAPER NUMBER

1797

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/528,085	Applicant(s) CRUDACE ET AL.	
	Examiner SHANTA G. DOE	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/31/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-35 and 40-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31-35, 40, 44, and 46-48 is/are allowed.
- 6) ☒ Claim(s) 41 and 45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed December 31, 2007, with respect to the new amended claims 31 have been fully considered and are persuasive. The argument that the prior art fails to teach a chemical gas generator comprising an ignition device wherein the ignition device comprises a friction member, a flint and an abrader was found persuasive.

Allowable Subject Matter

2. The indicated allowability of claim 35 (now written in independent form as new claim 41) is withdrawn in view of the newly discovered reference(s). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 41 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bovard et al (US 3,516,797) in view of Waldeck (US 3,785,334).

Regarding claim 41, Bovard discloses a chemical gas generator (oxygen generator) comprising: a generating device (16) for producing gas by chemical reaction (chemical

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oxygen generating means) and ignition means (igniter (14) comprising an igniter cap (21) and fuse material (20)) (see col. 2, lines 22-72) located in the center region of the generating device, wherein the generating device is arranged to sustain during operation propagation of a plurality of burn fronts there through, the fronts propagating in generally different directions. Specifically, the generating means (16) is circular in shape with the igniter located in the middle and when the generating means (16) is ignited it burns radially outward from the center thus propagating a plurality of burn fronts in different directions including mutually opposite directions (see figure 2; see col. 3, lines 4-50).

However, Bovard fails to disclose that the ignition means is a friction-induced spark generating means.

Waldeck (US 3,785,334) discloses a chemical gas generator comprising a generating means (container 40 hold fuel which is a combustible material and an oxidizer which when ignited will produce gaseous fluid) and a friction-induced spark generating ignition means (a striker member (62) contacting and abrading on the plug (60) to ignite it (see col. 1 lines 20 -35 , 47-50; col. 3 lines 22-35, line 38-42; col. 4 lines 30 -35) .

In view of Waldeck, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the ignition means of Bovard with the friction-induced spark generating ignition means as taught by Waldeck since, the substitution of one known ignition means for another would have yield a predictable result of igniting the generating device(means).

Regarding claim 45, the combination as applied to claim 41 above discloses a generator as claimed in claim 41 wherein the ignition means includes an abrader structured and positioned to be effective abrading a surface of the ignition region to facilitate ignition of the ignition region(a striker member (62) contacting and abrading on the plug (60) to ignite it) (see Waldeck col. 1 lines 20 -35 , 47-50; col. 3 lines 22-35, line 38-42; col. 4 lines 30 -35).

7. Claims 41 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bovard et al (US 3,516,797) in view of Endelson (US 4,517,994).

Regarding claim 41, Bovard discloses a chemical gas generator (oxygen generator) comprising: a generating device (16) for producing gas by chemical reaction (chemical oxygen generating means) and ignition means (igniter (14) comprising an igniter cap (21) and fuse material (20)) (see col. 2, lines 22-72) located in the center region of the generating device, wherein the generating device is arranged to sustain during operation propagation of a plurality of burn fronts there through, the fronts propagating in generally different directions. Specifically, the generating means (16) is circular in shape with the igniter located in the middle and when the generating means (16) is ignited it burns radially outward from the center thus propagating a plurality of burn fronts in different directions including mutually opposite directions (see figure 2; see col. 3, lines 4-50).

However, Bovard fails to disclose the that the ignition means is a friction-induced spark generating means.

Endelson discloses that it is known in the art to ignite a device by friction-induced spark generating ignition means comprising a flint and wheel (the device is ignited by sparks generated by a flint abraded by a wheel)(see Endelson col. 1 lines 22 - 25).

In view of Endelson, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the ignition means of Bovard with the friction-induced spark generating ignition means as taught by Endelson since, the substitution of one known ignition means for another would have yield a predictable result of igniting the generating device(means).

Regarding claim 45, the combination as apply to claim 41 above discloses a generator as claimed in claim 41 wherein the ignition means includes an abrader structured and positioned to be effective abrading a surface of the ignition region to facilitate ignition of the ignition region((the device is ignited by sparks generated by a flint abraded by a wheel)(see Endelson col. 1 lines 22 - 25)

8. Claims 41 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al. (U.S. Patent No. 5,338,516) in view of Endelson (US 4,517,994).

Regarding claim 41, Zhang discloses a chemical gas generator (oxygen generator) comprising: a generating device (16) for producing gas by chemical reaction (chemical

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oxygen generating means candle (12)) and ignition means (16) located in the center region of the generating device, wherein the generating device is arranged to sustain during operation propagation of a plurality of burn fronts there through, the fronts propagating in generally different directions (the different directions being formed by the different shapes and burn rates of the layers)(see fig. 1-2; col. 3 lines 1-24).

However, Zhang fails to disclose the that the ignition means is a friction- induced spark generating means.

Endelson discloses that it is known in the art to ignite a device by friction-induced spark generating ignition means comprising a flint and wheel (the device is ignited by sparks generated by a flint abraded by a wheel)(see Endelson col. 1 lines 22 - 25).

In view of Endelson, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the ignition means of Zhang with the friction-induced spark generating ignition means as taught by Endelson since, the substitution of one known ignition means for another would have yield a predictable result of igniting the generating device(means).

Regarding claim 45, the combination as apply to claim 41 above discloses a generator as claimed in claim 41 wherein the ignition means includes an abrader structured and positioned to be effective abrading a surface of the ignition region to facilitate ignition of the ignition region((the device is ignited by sparks generated by a flint abraded by a wheel)(see Endelson col. 1 lines 22 - 25)

Allowable Subject Matter

9. Claims 31-35, 40, 42-44 and 46 - 48 allowed.

10. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 31-35, 40, 42-44 and 46 – 48, the claims are allowable over the prior art because the prior art fails to disclose or suggest a gas generator comprising an ignition device wherein the ignition device comprises a friction member, a flint and an abrader.

Double Patenting

11. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

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A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

12. Claims 41 and 45 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 47 and 52 of copending Application No. 10479820 in view of Endelson (US 4,517,994) or Waldeck (US 3,785,334).

Regarding claims 41 and 45, claims 47 and 52 of the copending application No.10479820 disclose all the limitations of claims 41 and 45 of the current application except that the ignition means/device is a friction-induced spark generating ignition device and that the ignition means includes an abrader structured and positioned to be effective in abrading a surface of the ignition region to facilitate ignition of the ignition region.

However, Endelson discloses that it is known in the art to ignite a device by friction-induced spark generating ignition means comprising a flint and wheel (the device is ignited by sparks generated by a flint abraded by a wheel)(see Endelson col. 1 lines 22 - 25) and Waldeck (US 3,785,334) discloses a chemical gas generator comprising a generating means (container 40 hold fuel which is a combustible material and an oxidizer which when ignited will produce gaseous fluid) and a friction-induced spark generating ignition means(a striker member (62) contacting and abrading on the plug

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(60) to ignite it (see col. 1 lines 20 -35 , 47-50; col. 3 lines 22-35, line 38-42; col. 4 lines 30 -35) .

In view of Waldeck or Endelson, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the ignition means of the claims with the friction-induced spark generating ignition means wherein the ignition means includes an abrader structured and positioned to be effective in abrading a surface of the ignition region to facilitate ignition of the ignition region as taught by either Waldeck or Endelson since, the substitution of one known ignition means for another would have yield a predictable result of igniting the generating device(means).

This is a provisional obviousness-type double patenting rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHANTA G. DOE whose telephone number is (571)270-3152. The examiner can normally be reached on Mon-Fri 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GSD

/Walter D. Griffin/
Supervisory Patent Examiner, Art Unit 1797